

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/538,985
Source: PCT
Date Processed by STIC: 11/08/2005

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/538,985

TIME: 12:19:08

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

5 <110> APPLICANT: VILARDAGA, JEAN-PIERRE
6 HOFFMANN, CARSTEN
7 LOHSE, MARTIN, JOHANNES
10 <120> TITLE OF INVENTION: MILLISECOND ACTIVATION SWITCH FOR SEVEN-TRANSMEMBRANE
PROTEINS
12 <130> FILE REFERENCE: VOSS:008US
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/538,985
15 <141> CURRENT FILING DATE: 2005-06-15
17 <150> PRIOR APPLICATION NUMBER: PCT/EP2003/014679
18 <151> PRIOR FILING DATE: 2003-12-19
20 <150> PRIOR APPLICATION NUMBER: EP 03 00 4394.7
21 <151> PRIOR FILING DATE: 2003-03-03
23 <150> PRIOR APPLICATION NUMBER: DE 102 59 874.6
24 <151> PRIOR FILING DATE: 2002-12-19
26 <160> NUMBER OF SEQ ID NOS: 46
28 <170> SOFTWARE: PatentIn version 3.1
32 <210> SEQ ID NO: 1
34 <211> LENGTH: 1409
36 <212> TYPE: DNA
38 <213> ORGANISM: Mouse
42 <400> SEQUENCE: 1
43 atgggctacc catacgacgt cccagactac gccagcatgg gctcactgca gccggatgcc 60
45 ggcaacagca gctggaacgg gaccgaagcg cccggaggcg gcacccgagc cacccttac 120
47 tccctgcagg tgacactgac gctggtttgc ctggctggcc tgctcatgct gttcacagta 180
49 tttggcaacg tgetggttat tatcgcggtg ttcaccagtc gcgcgctcaa agctcccaa 240
51 aacctcttcc tgggtgctcc tggcctcagcg gacatcctgg tggccacgct ggtcattccc 300
53 ttttcttttg ccaacgaggt tatgggttac tggtaactttg gtaagggtgtg gtgtgagatc 360
55 tatttggtctc tcgacgtgct cttttgcacg tcgtccatag tgcacctgtg cgccatcagc 420
57 cttgaccgct actggtccat caccgaggcc atcgagtaca acctgaagcg caccgcccgt 480
59 cgcataaagg ccatcattgt caccgtgtgg gtcactctcg ctgtcatctc cttcccgcc 540
61 ctcatctcca tagaagaag gaccgaagt ggtatgtcat ctctcgtcc atcggttcct 600
63 tcttcgcgcc ttgcctcatc atgacctgg tctacgtgcg tatttaccag atcgccaagc 660
65 gtgcgacccg cgtgcctccc agccgcccgg gtcgggacgc ctgttccgcg ccgcccgggg 720
67 gcgcgcatcg caggcccaac gggctgggccc cggagcgcgg cgcggtccc acgggcgctg 780
69 aggcggagcc gctgcccacc cagcttaacg gtgccccggg ggagcccgcg ccgcccgggc 840
71 cccgcgatgg ggatgcgctg gacctagagg agagtctgct gtccgagcac gccgagcggc 900
73 ccccggggccc ccgcagaccc gaccgcggcc cccgagccaa gggcaagacc cgggcgagtc 960
75 aggtgaagcc gggggacagt ctgccgcggc gcgggcccgg ggccgcgggg ccgggggctt 1020
77 cgggggtccg gcacggagag gagcgcggcg ggggcgccaa agcgtcgcgc tggcgcggga 1080
79 ggcaaaaccg ggagaaacgc ttcacgttcg tgetggcggt ggtgatcggc gtgttcgtgg 1140
81 tgtgttggtt tccgttcttt ttcacctaca cgctcatagc ggtcggctgc ccggtgccc 1200
83 gccagctctt caacttcttc ttctggttcg gctactgcaa cagctcgtg aacctgtta 1260
85 tctacaccat cttcaaccac gacttccgac gcgccttcaa gaagatcctc tgccgtggg 1320
87 acagaaaacg catcgtgtga ttcaaccacg acttccgacg cgccttcaag aagatcctc 1380

RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/538,985

TIME: 12:19:08

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

```

89 gccgtgggga cagaaaacgc atcgtgtga 1409
92 <210> SEQ ID NO: 2
94 <211> LENGTH: 462
96 <212> TYPE: PRT
98 <213> ORGANISM: Mouse
102 <400> SEQUENCE: 2
104 Met Gly Tyr Pro Tyr Asp Val Pro Asp Tyr Ala Ser Met Gly Ser Leu
105 1 5 10 15
108 Gln Pro Asp Ala Gly Asn Ser Ser Trp Asn Gly Thr Glu Ala Pro Gly
109 20 25 30
112 Gly Gly Thr Arg Ala Thr Pro Tyr Ser Leu Gln Val Thr Leu Thr Leu
113 35 40 45
116 Val Cys Leu Ala Gly Leu Leu Met Leu Phe Thr Val Phe Gly Asn Val
117 50 55 60
120 Leu Val Ile Ile Ala Val Phe Thr Ser Arg Ala Leu Lys Ala Pro Gln
121 65 70 75 80
124 Asn Leu Phe Leu Val Ser Leu Ala Ser Ala Asp Ile Leu Val Ala Thr
125 85 90 95
128 Leu Val Ile Pro Phe Ser Leu Ala Asn Glu Val Met Gly Tyr Trp Tyr
129 100 105 110
132 Phe Gly Lys Val Trp Cys Glu Ile Tyr Leu Ala Leu Asp Val Leu Phe
133 115 120 125
136 Cys Thr Ser Ser Ile Val His Leu Cys Ala Ile Ser Leu Asp Arg Tyr
137 130 135 140
140 Trp Ser Ile Thr Gln Ala Ile Glu Tyr Asn Leu Lys Arg Thr Pro Arg
141 145 150 155 160
144 Arg Ile Lys Ala Ile Ile Val Thr Val Trp Val Ile Ser Ala Val Ile
145 165 170 175
148 Ser Phe Pro Pro Leu Ile Ser Ile Glu Lys Lys Gly Ala Gly Gly Gly
149 180 185 190
152 Gln Gln Pro Ala Glu Pro Ser Cys Lys Ile Asn Asp Gln Lys Trp Tyr
153 195 200 205
156 Val Ile Ser Ser Ser Ile Gly Ser Phe Phe Ala Pro Cys Leu Ile Met
157 210 215 220
160 Ile Leu Val Tyr Val Arg Ile Tyr Gln Ile Ala Lys Arg Arg Thr Arg
161 225 230 235 240
164 Val Pro Pro Ser Arg Arg Gly Pro Asp Ala Cys Ser Ala Pro Pro Gly
165 245 250 255
168 Gly Ala Asp Arg Arg Pro Asn Gly Leu Gly Pro Glu Arg Gly Ala Gly
169 260 265 270
172 Pro Thr Gly Ala Glu Ala Glu Pro Leu Pro Thr Gln Leu Asn Gly Ala
173 275 280 285
176 Pro Gly Glu Pro Ala Pro Ala Gly Pro Arg Asp Gly Asp Ala Leu Asp
177 290 295 300
180 Leu Glu Glu Ser Ser Ser Ser Glu His Ala Glu Arg Pro Pro Gly Pro
181 305 310 315 320
184 Arg Arg Pro Asp Arg Gly Pro Arg Ala Lys Gly Lys Thr Arg Ala Ser
185 325 330 335
188 Gln Val Lys Pro Gly Asp Ser Leu Pro Arg Arg Gly Pro Gly Ala Ala

```

RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/538,985

TIME: 12:19:08

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

```

189          340          345          350
192 Gly Pro Gly Ala Ser Gly Ser Gly His Gly Glu Glu Arg Gly Gly Gly
193          355          360          365
196 Ala Lys Ala Ser Arg Trp Arg Gly Arg Gln Asn Arg Glu Lys Arg Phe
197          370          375          380
200 Thr Phe Val Leu Ala Val Val Ile Gly Val Phe Val Val Cys Trp Phe
201 385          390          395          400
204 Pro Phe Phe Phe Thr Tyr Thr Leu Ile Ala Val Gly Cys Pro Val Pro
205          405          410          415
208 Ser Gln Leu Phe Asn Phe Phe Phe Trp Phe Gly Tyr Cys Asn Ser Ser
209          420          425          430
212 Leu Asn Pro Val Ile Tyr Thr Ile Phe Asn His Asp Phe Arg Arg Ala
213          435          440          445
216 Phe Lys Lys Ile Leu Cys Arg Gly Asp Arg Lys Arg Ile Val
217          450          455          460
220 <210> SEQ ID NO: 3
222 <211> LENGTH: 1785
224 <212> TYPE: DNA
226 <213> ORGANISM: homo sapiens
230 <400> SEQUENCE: 3
231 atggggaccg cccggatcgc acccggcctg gcgctcctgc tctgctgccc cgtgctcagc 60
233 tccgcgtacg cgctggtgga tgcagatgac gtcatgacta aagaggaaca gatcttcctg 120
235 ctgcaccgtg ctcaggccca gtgcgaaaaa cggctcaagg aggtcctgca gaggccagcc 180
237 agcataatgg aatcagacaa gggatggaca tctgcgtcca catcagggaa gcccaggaaa 240
239 gataaggcat ctgggaagct ctaccctgag tctgaggagg acaaggaggc acccactggc 300
241 agcaggtagc gagggcgccc ctgtctgccc gaatgggacc acatcctgtg ctggccgctg 360
243 ggggacaccg gtgagggtgt ggctgtgccc tgtccggact acatttatga cttcaatcac 420
245 aaaggccatg cctaccgacg ctgtgaccgc aatggcagct gggagctggt gcctgggcac 480
247 aacaggacgt gggccaacta cagcgagtgt gtcaaatttc tcaccaatga gactcgtgaa 540
249 cgggagggtgt ttgaccgcct gggcatgatt tacaccgtgg gctactccgt gtccctggcg 600
251 tccctcaccg tagctgtgct catcctggcc tactttaggc ggctgcactg cacgcgcaac 660
253 tacatccaca tgcacctgtt cctgtccttc atgctgcgcg ccgtgagcat cttcgtcaag 720
255 gacgctgtgc tctactctgg cgccacgctt gatgaggctg agcgcctcac cgaggaggag 780
257 ctgcgcgcca tcgccaggc gccccgcgcg cctgccaccg ccgctgccgg ctacgcgggc 840
259 tgcagggtgt ctgtgacctt ctctctttac ttctggcca ccaactacta ctggattctg 900
261 gtggaggggc tgtacctgca cagcctcatc ttcatggcct tcttctcaga gaagaagtac 960
263 ctgtggggct tcacagtctt cggctggggg ctgcccgcgt tcttcgtggc tgtgtgggtc 1020
265 agtgtcagag ctaccctggc caacaccggg tgctgggact tgagctccgg gaacaaaaag 1080
267 tggatcatcc aggtgcccac cctggcctcc attgtgctca acttcacct ctcatcaat 1140
269 atcgtccggg tgctgcgccac caagctgcgg gagaccaacg ccggccggtg tgacacacgg 1200
271 cagcagtacc ggaagctgct caaatccacg ctggtgctca tgccctctt tggcgtccac 1260
273 tacattgtct tcatggccac accatacacc gaggtctcag ggacgctctg gcaagtccag 1320
275 atgcactatg agatgctctt caactccttc cagggatttt ttgtcgcaat catatactgt 1380
277 ttctgcaatg gcgaggtaga agctgagatc aagaaatctt ggagccgctg gacactggca 1440
279 ctggacttca agcgaaaggc acgcagcggg agcagcagct atagctacgg ccccatgggtg 1500
281 tcccacacaa gtgtgaccaa tgtcggcccc cgtgtgggac tgggcctgcc cctcagcccc 1560
283 cgcctactgc cactgccac caccaacggc caccctcagc tgctggcca tgccaagcca 1620
285 gggacccccag ccctggagac cctcgagacc acaccacctg ccatggctgc tccaaggac 1680
287 gatgggttcc tcaacggctc ctgctcaggc ctggacgagg aggcctctgg gcctgagcgg 1740

```

RAW SEQUENCE LISTING

DATE: 11/08/2005

PATENT APPLICATION: US/10/538,985

TIME: 12:19:08

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

```

289 ccacctgccc tgctacagga agagtgggag acagtcattgt gatga 1785
292 <210> SEQ ID NO: 4
294 <211> LENGTH: 593
296 <212> TYPE: PRT
298 <213> ORGANISM: homo sapiens
302 <400> SEQUENCE: 4
304 Met Gly Thr Ala Arg Ile Ala Pro Gly Leu Ala Leu Leu Cys Cys
305 1 5 10 15
308 Pro Val Leu Ser Ser Ala Tyr Ala Leu Val Asp Ala Asp Asp Val Met
309 20 25 30
312 Thr Lys Glu Glu Gln Ile Phe Leu Leu His Arg Ala Gln Ala Gln Cys
313 35 40 45
316 Glu Lys Arg Leu Lys Glu Val Leu Gln Arg Pro Ala Ser Ile Met Glu
317 50 55 60
320 Ser Asp Lys Gly Trp Thr Ser Ala Ser Thr Ser Gly Lys Pro Arg Lys
321 65 70 75 80
324 Asp Lys Ala Ser Gly Lys Leu Tyr Pro Glu Ser Glu Glu Asp Lys Glu
325 85 90 95
328 Ala Pro Thr Gly Ser Arg Tyr Arg Gly Arg Pro Cys Leu Pro Glu Trp
329 100 105 110
332 Asp His Ile Leu Cys Trp Pro Leu Gly Ala Pro Gly Glu Val Val Ala
333 115 120 125
336 Val Pro Cys Pro Asp Tyr Ile Tyr Asp Phe Asn His Lys Gly His Ala
337 130 135 140
340 Tyr Arg Arg Cys Asp Arg Asn Gly Ser Trp Glu Leu Val Pro Gly His
341 145 150 155 160
344 Asn Arg Thr Trp Ala Asn Tyr Ser Glu Cys Val Lys Phe Leu Thr Asn
345 165 170 175
348 Glu Thr Arg Glu Arg Glu Val Phe Asp Arg Leu Gly Met Ile Tyr Thr
349 180 185 190
352 Val Gly Tyr Ser Val Ser Leu Ala Ser Leu Thr Val Ala Val Leu Ile
353 195 200 205
356 Leu Ala Tyr Phe Arg Arg Leu His Cys Thr Arg Asn Tyr Ile His Met
357 210 215 220
360 His Leu Phe Leu Ser Phe Met Leu Arg Ala Val Ser Ile Phe Val Lys
361 225 230 235 240
364 Asp Ala Val Leu Tyr Ser Gly Ala Thr Leu Asp Glu Ala Glu Arg Leu
365 245 250 255
368 Thr Glu Glu Glu Leu Arg Ala Ile Ala Gln Ala Pro Pro Pro Pro Ala
369 260 265 270
372 Thr Ala Ala Ala Gly Tyr Ala Gly Cys Arg Val Ala Val Thr Phe Phe
373 275 280 285
376 Leu Tyr Phe Leu Ala Thr Asn Tyr Tyr Trp Ile Leu Val Glu Gly Leu
377 290 295 300
380 Tyr Leu His Ser Leu Ile Phe Met Ala Phe Phe Ser Glu Lys Lys Tyr
381 305 310 315 320
384 Leu Trp Gly Phe Thr Val Phe Gly Trp Gly Leu Pro Ala Val Phe Val
385 325 330 335
388 Ala Val Trp Val Ser Val Arg Ala Thr Leu Ala Asn Thr Gly Cys Trp

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/538,985

DATE: 11/08/2005

TIME: 12:19:08

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

```

389          340          345          350
392 Asp Leu Ser Ser Gly Asn Lys Lys Trp Ile Ile Gln Val Pro Ile Leu
393          355          360          365
396 Ala Ser Ile Val Leu Asn Phe Ile Leu Phe Ile Asn Ile Val Arg Val
397          370          375          380
400 Leu Ala Thr Lys Leu Arg Glu Thr Asn Ala Gly Arg Cys Asp Thr Arg
401 385          390          395          400
404 Gln Gln Tyr Arg Lys Leu Leu Lys Ser Thr Leu Val Leu Met Pro Leu
405          405          410          415
408 Phe Gly Val His Tyr Ile Val Phe Met Ala Thr Pro Tyr Thr Glu Val
409          420          425          430
412 Ser Gly Thr Leu Trp Gln Val Gln Met His Tyr Glu Met Leu Phe Asn
413          435          440          445
416 Ser Phe Gln Gly Phe Phe Val Ala Ile Ile Tyr Cys Phe Cys Asn Gly
417          450          455          460
420 Glu Val Gln Ala Glu Ile Lys Lys Ser Trp Ser Arg Trp Thr Leu Ala
421 465          470          475          480
424 Leu Asp Phe Lys Arg Lys Ala Arg Ser Gly Ser Ser Ser Tyr Ser Tyr
425          485          490          495
428 Gly Pro Met Val Ser His Thr Ser Val Thr Asn Val Gly Pro Arg Val
429          500          505          510
432 Gly Leu Gly Leu Pro Leu Ser Pro Arg Leu Leu Pro Thr Ala Thr Thr
433          515          520          525
436 Asn Gly His Pro Gln Leu Pro Gly His Ala Lys Pro Gly Thr Pro Ala
437          530          535          540
440 Leu Glu Thr Leu Glu Thr Thr Pro Pro Ala Met Ala Ala Pro Lys Asp
441 545          550          555          560
444 Asp Gly Phe Leu Asn Gly Ser Cys Ser Gly Leu Asp Glu Glu Ala Ser
445          565          570          575
448 Gly Pro Glu Arg Pro Pro Ala Leu Leu Gln Glu Glu Trp Glu Thr Val
449          580          585          590
452 Met
456 <210> SEQ ID NO: 5
458 <211> LENGTH: 1238
460 <212> TYPE: DNA
462 <213> ORGANISM: homo sapiens
466 <400> SEQUENCE: 5
467 atgcccata tgggtcctc ggtgtacatc acggtggagc tggccattgc tgtgctggcc 60
469 atcctgggca atgtgctggt gtgctgggcc gtgtgggtca acagcaacct gcagaacgtc 120
471 accaactact ttgtggtgtc actggcggtc gccgacatcg cagtgggtgt gctcgccatc 180
473 ccctttgcc taccatcag caccgggttc tgcgtgctt gccacggctg cctcttcatt 240
475 gctgcttcg tctgtgctc caccgagagc tccatcttca gtctcctggc catcgccatt 300
477 gaccgtaca ttgccatcg catcccgtc cggtagaatg gcttggtgac cggcacgagg 360
479 gctaaggcca tcattgccat ctgctgggtg ctgtcgtttg ccacggcctt gactcccatg 420
481 ctaggttgga acaactgcgg tcagccaaag gagggcaaga accactccca gggctgcggg 480
483 gagggccaag tggcctgtct ctttgaggat gtgggtccca tgaactacat ggtgtacttc 540
485 aacttcttct ctgtgtgctg gtgcccctgc tgctcatgct ggggtgtctat ttgcggatct 600
487 tcctggcggc gcgacgacag ctgaagcaga tggagagcca gcctctgccc ggggagcggg 660
489 cacgggtccac actgcagaag gaggtccatg ctgccaaagt actggccatc attgtggggc 720

```

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/538,985

DATE: 11/08/2005

TIME: 12:19:09

Input Set : D:\voss008.txt

Output Set: N:\CRF4\11082005\J538985.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application Number